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Meeting of the Maritimes Regional Advisory Process SPA 1, 3, 4, 6 Scallop and Scallop Fishing Area 29

Réunion du Processus consultatif régional des provinces Maritimes Pétoncle des ZPP 1, 3, 4, 6 et de la zone de pêches à la pétoncle # 29

13-15 February 2002

Mic Mac Amateur Aquatic Club
192 Prince Albert Road
Dartmouth, Nova Scotia

du 13 au 15 février 2002

Club aquatique amateur Mic Mac
192, chemin prince Albert
Dartmouth (Nouvelle-Écosse)

René Lavoie
Meeting Chairperson / Président de réunion

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September 2003 / Septembre 2003

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FOREWORD

The purpose of this proceeding is to archive the activities and discussions of the meeting, including research recommendations, uncertainties, and to provide a place to formally archive official minority opinions. As such, interpretations and opinions presented in this report may be factually incorrect or mis-leading, but are included to record as faithfully as possible what transpired at the meeting. No statements are to be taken as reflecting the consensus of the meeting unless they are clearly identified as such. Moreover, additional information and further review may result in a change of decision where tentative agreement had been reached

AVANT-PROPOS

Le présent compte rendu fait état des activités et des discussions qui ont eu lieu à la réunion, notamment en ce qui concerne les recommandations de recherche et les incertitudes; il sert aussi à consigner en bonne et due forme les opinions minoritaires officielles. Les interprétations et opinions qui y sont présentées peuvent être incorrectes sur le plan des faits ou trompeuses, mais elles sont intégrées au document pour que celui-ci reflète le plus fidèlement possible ce qui s'est dit à la réunion. Aucune déclaration ne doit être considérée comme une expression du consensus des participants, sauf s'il est clairement indiqué qu'elle l'est effectivement. En outre, des renseignements supplémentaires et un plus ample examen peuvent avoir pour effet de modifier une décision qui avait fait l'objet d'un accord préliminaire

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ABSTRACT

These proceedings record discussions that were held during the Regional Advisory Process (RAP) meetings for Inshore sea scallop stocks in the Maritimes Region in February, 2002. The scientific peer review of inshore scallop stock of Bay of Fundy (SPA 1), St. Mary's Bay/Briar/Lurcher (SPA 3), Digby and Annapolis Basin (SPA 4), Grand Manan (SPA 6), and Scallop Fishing Area 29, were conducted in the Conference Room of the MicMac Amateur Aquatic Club, Dartmouth, Nova Scotia, February 13-15, 2002. The objectives, participants and discussions pertaining to this meeting are presented in this document.

RÉSUMÉ

Le présent compte rendu relate les discussions tenues lors des réunions du Processus consultatif régional (PCR) portant sur les stocks côtiers de pétoncle géant de la Région des Maritimes en février 2002. L'examen scientifique par les pairs des stocks côtiers de pétoncle de la baie de Fundy (APP 1), de la baie Sainte-Marie, de l'île Briar et du haut-fond Lurcher (APP 3), de Digby et du bassin d'Annapolis (APP 4), de Grand Manan (APP 6) et de la zone de pêche du pétoncle 29 a eu lieu du 13 au 15 février 2002 dans la salle de conférence du MicMac Amateur Aquatic Club, à Dartmouth (Nouvelle-Écosse). Les pages suivantes présentent les participants à cette réunion et décrivent les objectifs visés et les discussions tenues à cette occasion.

INTRODUCTION

The Inshore Scallop Meeting of February 13-15, 2002 was convened in the Conference Room of the MicMac Amateur Aquatic club in Dartmouth, Nova Scotia. Chairperson René Lavoie welcomed the participants (Appendix 1) who had responded to the official letter of invitation (Appendix 2). The remit for the meeting (Appendix 3) and the proposed schedule (Appendix 4) were read and accepted as presented.

The scientific reviewers for the meeting were:

Dr. Robert K. Mohn, Marine Fish Division, Bedford Institute of Oceanography;
Robert O'Boyle, Department of Fisheries and Oceans RAP Coordinator,
Dr. Ross Claytor, Invertebrate Fisheries Division, BIO.

A list of the working papers presented at the meeting is given in Appendix 5.

Referee's comments and questions and answers from the general discussion are documented by Scallop Production Area (SPA) and Scallop Fishing Area (SFA), following the Working Paper titles.

General Comment from Referees

In all assessments, excellent and full use was made of the data available. Much work has gone into these assessments and the ability to provide advice has improved for these fisheries.

SCALLOP IN SCALLOP PRODUCTION AREA (SPA) 1

Working Paper: Roddick, D. 2002. Assessment of the Scallop Stock in Scallop Production Area 1; Bay of Fundy for the fall of 2001. RAP Working Paper 2002/002.

Because SPA 1 and SPA 4 represent scallops from the same or closely related populations. The model results for SPA 4 may be applied to provide advice on SPA 1, until such time that diagnostics can be thoroughly examined for SPA 1 and differences in parameter estimates between the two areas are better understood.

Report probability of biomass increasing as well as probability of exceeding target fishing mortalities in the provision of advice.

Report catch rates by area instead of or in addition to by fleet.

SCALLOP IN SCALLOP PRODUCTION AREA (SPA) 3

Working Paper: Smith, S., and M. Lundy. 2002. Scallop Production Area 3 and Scallop Fishing Area 29; Stock Status and Forecast. RAP Working Paper 2002/001.

The source of the catch rate data for SPA 3 are logbooks. There seems to be some concern about the validity of the catch and effort reported in these logs. The survey which started in 1991 overlaps with the years of concern. Because commercial catch rates are correlated with survey catch rates, perhaps they could be used to test this concern.

Are there any signs from the survey that the 1989-1990 year-classes were larger than expected in this area as they were in SPA 4?

Report forecast as probability that biomass will increase as well as probability that fishing mortality targets will be exceeded.

Q: Did the large year class seen in Digby not show up in this area?
A: The surveys started later, but the year class did not appear in the surveys.

Q: The catch rates declined until the fishery stopped. When it started up again the catch rates were higher. Was this due to recruitment or a build up of biomass?
A: Looking at Figures 4 and 34, landings went up when the fishery started up again. The catch rates indicate that the lack of fishing allowed the stock to build up.

Q: In regards to the disappearing year-class, can the survey sampling intensity be increased to rule out sampling error as a cause?
A: The SPA 3 survey takes three weeks now. It is unlikely that we will be able to increase the sampling intensity given current resources.

Q: If it is not sampling error what else could it be?
A: It seems to be a regular feature of this area. Year classes show up at small shell sizes in the survey but then disappear. Industry didn't see a lot of clappers, but they break up faster at smaller sizes.

This is important for understanding the recruitment dynamics of the area.

In the projections, it would be good to give the probability of the biomass increasing as well as that of F0.1 being exceeded.

Year-classes cannot be followed in the survey height frequency data.

General Discussion:

Vance - The 1991 – 1996 data is not good. Landings reported to this area were coming from Browns and German Bank.
Stephen – Is there any way of estimating the real landings?

Vance – The fleet increased in numbers with vessels displaced from the groundfish fleet. These were large vessels, expensive to run and needed high catch rates. The situation was similar to that in 1997-2001, real landings may even have been lower than at present.

Jim – There is no documented proof. There were some charges laid, but there was a very poor job of surveillance of the fishery at the time. A lot of landings were not reported at all.

Glyn – The only good landing numbers are for 1997 – 2001

Ross – Could the survey catch rates be used as an index or proxy for commercial CPUE?
Stephen – We would still need true landings.

Jim – On the idea of pre-recruits disappearing, what weight should be put on that in future survey work. Should something be changed?
Stephen – We would probably not change the survey design and cannot increase intensity with present resources. One thing we need to resolve is the differences between the J.L. Hart and Julie Ann Joan in catch rates at size.

General discussion concluded that with the doubt about the data being used that the model results would not be used as a basis for management at present.

SCALLOP IN SCALLOP PRODUCTION AREA (SPA) 4

Working Paper: Smith, S. J. and Lundy, M. J. 2002. Scallop Production Area 4 in the Bay of Fundy: Stock status and forecast. Rap Working Paper 2002/004.

Recommendations from the October 2001 Meeting:

A review of the historical landings should be done.
- This was done.

The historical catch and effort series should be used to produce a catch rate index.
- This was done.

It was recommended that the model use age groups.

– It was felt that the data was more suited to using size groups as fewer conversions were involved.

It was suggested that the model could use the information from older recruited scallops, was this done?
- The data was looked at but the year classes overlap and are too blurred to be useful.

There was a recommendation to look at commercial CPUE and 5 plus biomass to see if there was any non-linearity in the relationship.
- -There is little data available at high biomass levels. The high points are outliers and come from a period with low log returns.

Was the variance estimate from the survey used in the model?
– No, we are not ready to use it yet, this is a possible refinement in the future.

It was recommended to examine the models behaviour through such means as residual patterns and a retrospective analysis.
– This was done and is presented in the paper.

There was a lot of discussion on priors in October. How much information do you give the model in the priors and what do you base it on.
– The priors should never be based on data being used in the model. If you look at Figure 22 for the q's, there was little information supplied in the priors, but the posterior distributions show definite peaks so there is a lot of information coming from the data. This summer we will be using TOWCAM in the July survey to compare actual densities with survey catches, which will give us independent estimates of the survey q's.

The issues raised in October appear to have been addressed.

General Discussion:

Q: In the fishery section, was the reduction in effort in 1994 shown in Figure 4 real?
A: Yes, the response to the die off in SPA 4 was for the fleet to move into the Cape Spencer area.

It would be good to compare the model fishing mortality with the commercial effort series as an independent data source. This could also be done with commercial catch rate and the model biomass series.

This brings up the question of how do you manage a stock like this between peaks versus during peaks, and the issue of peaks in recruitment coming from low biomass levels. It would be useful to have a discussion on how the history of the fishery and the biology of the scallop relate to this pattern of peaks in recruitment.

Q: In October it was thought that basing management on catch reference points were a bad idea, were biomass reference points determined?
A: No this has not been done yet. We have to look at the differences between the peaks and the valleys in the biomass trends.

Glyn – One approach to management that should be looked at is fishing at higher than $F_{0.1}$ for the peaks, and fishing at $F_{0.1}$ between peaks. There may be a relationship between peaks and the die off and none between peaks and subsequent recruitment.

Bob - In the projection one scenario used an increased mortality rate but kept the same $F_{0.1}$ level. If natural mortality increased this would also change the $F_{0.1}$ level.

Stephen - One point that should be brought up is that in addition to the recruitment pulse, growth rates are high, the scallops are growing faster than they did during the last recruitment pulse. The oceanographers say that primary production is up in the Bay of Fundy.

Stephen - In regards to the possibility of a die-off, they have happened in the past, but not to the extent of what happened in 1989-90. Consider the situation on George's Bank. Before the establishment of the international line it was a classic recruitment dependent, irregular fishery. On the Canadian side, as the biomass built up recruitment became steadier. The US side continued as it was. It is possible that an increased biomass would help recruitment.

Vance – the 1989-90 die-off occurred in two months. Even with the present sampling program, by the time it is detected it will be too late to do anything about it.
Stephen – Once the fleet comes off the water we may increase the sampling frequency, but we may not have time to react to a die-off. However, we also do not want to give up the potential yield on the basis of a possibility of a die-off.

Glyn – Is there sampling being done on such things as glycogen levels now?
Stephen – No, we do not have the resources to do that type of sampling, it may be possible to build it into the management plan.
Glyn – I would like to see it being done now!

Vance – What types of numbers are we looking at for definitions of: "Serious Harm" etc.?
Stephen – That is still to be determined.

Vance – The stock has recovered from a biomass as low as 8-900 t, therefore "serious Harm must be lower than that!
Stephen – Yes, but it still could be considered "overfished", at 8-900 t the stock could be impaired but not destroyed.

Vance – The concerns about small scallops should be decreasing as there is increasing pressure from the buyers to increase the sizes being landed.

Bob – The error terms for the residuals should be clearly shown. A different name should be used for the term "K" as this name is commonly used for a virgin or maximum biomass level.

Will first go through recommendations from October methods RAP and then the fishery section and resource status sections of the present paper.

Recommended a review of the historic landings data – this was done.

Recommended the historic catch and effort series be used to produce a catch rate index. – Done, shown in Figure 5.

The issues raised in October appear to have been addressed.

The Fishery:

Q: Is there a definite periodicity in the catch series if you use landings going back prior to 1976? Caddy had a series going back to 1920.
A: There are problems in the catch series with the area being fished changing through time.

Q: Is there a periodicity in the catch?
A: Dickie and Caddy both implied one linked to temperature. A reanalysis of the old data did not find any strong regular periodic recruitment, it is episodic but without any regular periodicity.

Vance – When the stock was low in 1970-72 a lot of vessels tied up and did not go fishing as catch rates were so low.

It would be useful to have a discussion on how the history of the fishery and the biology of the scallop relate to this pattern of peaks in recruitment.

Stephen - In addition to the recruitment pulse, growth rates are high, the scallops are growing faster than they did during the last recruitment pulse. The oceanographers say that primary production is up in the Bay of Fundy.

Vance – The current catch rates appear to be low from what he has been seeing this year.
Stephen - The catch rate series only includes up to December.
Vance – Yes, the catch rates went up in January.

Resource Status:

Q: Is the survey able to track year classes?
A: Yes, the modes show up in the shell height data.

Q: Would it be possible to develop a density dependent growth curve for this stock?
A: The data could be examined, in the present case the high density and high growth rates are occurring together. Another possibility for the higher size at age is that the recruitment is from a spring spawning rather that the usual fall spawning.

The herring larval survey could be examined to see if it is picking up scallop larvae.

It was recommended that the model use age groups.
Stephen- I felt that the data was more suited to using size groups as it involved less converting.

Q: It was suggested that the model could use the information from older recruited scallops, was this done?
A: The data was looked at but the year classes overlap and are too blurred to be useful.

There was a recommendation to look at commercial CPUE and 5 plus biomass to see if there was any non-linearity in the relationship.
Stephen -There is little data available at high biomass levels. The high points are outliers and come from a period with low log returns.

Q: Was the variance estimate from the survey used in the model?
A: No, we are not ready to use it yet, this is a possible refinement in the future.

It was recommended to examine the models behaviour through such means as residual patterns and a retrospective analysis.
Stephen – This was done and is presented in the paper.

There was a lot of discussion on priors in October. How much information do you give the model in the priors and what do you base it on.
Stephen – The priors should never be based on data being used in the model. If you look at Figure 22 for the q's, there was little information supplied in the priors, but the posterior distributions show definite peaks so there is a lot of information coming from the data. This summer we will be using TOWCAM in the July survey to compare actual densities with survey catches, which will give us independent estimates of the survey q's.

The model formulation appears to be a good basis for management for the next few years.

Q: There was a lot of discussion in October on how to manage peaks versus valleys but no definite answers.
A: Yes, the model captures the trends in the dynamics of the system. The next issue is how to manage these dynamics.

Other:

Bob - How is the dissolution rate influenced by temperature etc.?
Stephen- There are few studies on how the dissolution rate varies with different factors. This is not really known.

Bob - In the projection one scenario used an increased mortality rate but kept the same $F_{0.1}$ level. If natural mortality increased this would also change the $F_{0.1}$ level.
Stephen- Yes that is true, but the intent was to compare fishing at the same level under the two scenarios of natural mortality.

Bob - This brings up the issue of how to manage the peaks, this would probably not be by an $F_{0.1}$ approach. What other things are you planning to look at?

Stephen – The bi-monthly sampling will give us some data to examine such things as seasonality and dissolution rates. The point of the present approach is that it is the current state of what we can do. We do not have the resources to look at everything at once in such detail.

Glyn – One approach that should be looked at is fishing at higher than F0.1 for the peaks, and fishing at F0.1 between peaks. There may be a relationship between peaks and the die off and none between peaks and subsequent recruitment.

Stephen- Die-offs have happened in the past but not to the extent of what happened in 1989-90. Consider the situation on George's Bank. Before the establishment of the international line it was a classic recruitment dependent, irregular fishery. On the Canadian side, as the biomass built up recruitment became steadier. The US side continued as it was. It is possible that an increased biomass would help recruitment.

Vance – Keep in mind that the fishermen cannot afford to take the risk of not making money from the peaks to offset the low catches in between.
Has there been any comparison of the salinity, temperatures and plankton now and in the late 1980's.
Stephen – There is not a lot of information, there are still not a lot of studies being done in the Bay of Fundy. The plankton information comes from satellite colour analysis.

Vance – In 1989-90 were the clapper ratios higher in denser areas than in areas of low abundance?
Stephen – We will have to look at the data closer to answer that. So far we have tended to look at aggregated numbers.

Rene – Starvation is a possibility at high densities and has been shown for other bivalves.
Stephen – Starvation was thought as an unlikely cause in the last die-off. It progressed too quickly.

Bob – If natural mortality goes up in peak periods F0.1 would increase as well. It would be possible to create a table of mortality index versus F0.1.

Stephen – In this case we are giving options and a prediction of what the effect of different catch levels would be.

Vance – Fishing at the F0.1 level is trying to maintain biomass at the level of the peak. This is not realistic.
Stephen – Yes, a better management target might be a minimum biomass level. We may want to move the baseline biomass up, maybe to 4000 t.

SCALLOP IN SCALLOP PRODUCTION AREA (SPA) 6

Working Paper: Roddick, D. 2002. Assessment of the Scallop Stock in Scallop Production Area 6; Bay of Fundy for 2001. RAP Working Paper 2002/003.

Need to investigate the high rate of clappers in Duck Island Sound. Try to relate the incidence of clappers to survey numbers, using growth models.

Report catch rates by areas as well as fleet.

Assess the meat distribution and the occurrence of weights less than 11g through statistical analysis as well as descriptive line plots.

SCALLOP IN SCALLOP FISHING AREA (SFA) 29

Working Paper: Smith, S., and M. Lundy. 2002. Scallop production Area 3 and Scallop Fishing Area 29; Stock Status and Forecast. RAP Working Paper 2002/001.

The effect of fishing should continue to be evaluated through the use of the post-season survey.

Lobster by-catch during the season and in the survey should be reported in a small table. When need to be able to provide advice on the impact of season openings and closing on lobster populations.

This is a remarkable chance to study a lightly fished scallop population and gain considerable insight into scallop population dynamics. Advice to conduct this fishery on a seasonal, rollover TAC, or rotational fishery should include an aspect of research.

The catch rates are striking, is it correct that this area has only been lightly fished or not fished in recent years?
Mark – The western area was fished in 1996, but catch rates were low.

This appears to be a build up of scallops. It is a rare situation to have initial survey information on an unfished stock. The surveys should be given high importance.

The lobster issue will come up again. Will this likely be a June – September fishery?
Mark – Yes, We want to avoid August due to the numbers of soft-shelled lobsters. The June fishery encountered few lobsters and the September survey caught lobsters.

Is there a way of using the observer data to estimate total lobster by-catch?
Mark – This has been done already. Another point is that the fishery removed a significant amount of illegal lobster gear. The survey hauled up 3 sets of freshly baited traps.

What is the definition of a rotational fishery and rolling TAC?
Mark – Rotational fishery is dividing the area up and opening sections with the large scallops and not the pre-recruits, as they do not overlap. Divide the area into two sections.
Jim – More of a targeted fishing area than rotational fishing.
Mark – A rolling TAC means that the TAC will be rolled over until the catch rates start to drop.
How do you decide what the critical level is?
Mark – That would be discussed at ISAC.

Vance – These scallops are 10-13 years old now. What is their life expectancy and what density is needed to maintain the population? We don't know what is needed.

Bruce – How many vessels were involved in this fishery?
Mark – A maximum of 46 per month.

Glyn – The stock in the fishing area are 9-11 year olds, so the target should not be sustainable fishing level.

René – There is a small recruitment pulse, which may have come from this large spawning biomass. Has there been any thought given to leaving some broodstock in the area for the future?

Vance – The fishery this year could only go to 65 41, which kept them out of the main area of small scallops. There is also a lot of unfishable bottom in the area, which would leave a refuge spawning stock.

René – Could you do an intensive survey of the target area to come up with the best biomass estimate and then set a reserve biomass as broodstock?
Mark – There is still the problem of what level of broodstock is necessary.

Glyn – There is probably enough unfishable bottom in the area to maintain a broodstock. The survey should map this out.
Stephen – This would be a good area for multi-beam or sidescan work.
Rene – All it takes is money.

Jim – This area is part of the German Bank stock so there is a broodstock in the area.

Vance – Is there any possibility of doing a survey in the eastern area inside of where they can fish to see if there is a lot of broodstock inside?
Mark – The inside area is known to have scallops.
Vance – You could survey this area and estimate the broodstock that is not fished there.

Brian – What process is needed to determine a sustainable broodstock level?
Mark and Stephen – That is unknown.

Ross – What is the difference between the survey and the commercial gear?
Mark – the only difference was that one drag was lined for the survey.
Ross – Can you break out the commercial catch rate by area to compare to the survey?
Mark – Yes that can be done.

Dick – Setting a rolling TAC of 200 t has been done in the past and is not unreasonable. If it is consistent with the management plan why try and come up with a new method? Why not just monitor the catch rates and keep the fishery going until they drop to a set level?
Stephen – It is doable, but costly to monitor them closely enough to manage the fishery by that means.
Vance – A rolling TAC causes problems in the Full Bay fleet with quotas that are only fished if they are sold. Is there some way of having a more open TAC?
Jim – the problem is that a TAC is needed in advance for collecting licence fees.

Appendix 1. List of Participants.

Participant	Affiliation/Address	Telephone	FAX	E-Mail
Brian Giroux	33 Chestnut St., Yarmouth, N.S.	(902) 742-6732		Sfmobile@fox.nstn.ca
Vance Hazelton	R.R. #3, Digby, N.S. B0V 1A0	(902) 245-5712	(902) 245-5712	Vah@ns.sympatico.ca
Jim Jamieson	FMB/DFO, Dartmouth, N.S.	(902) 426-8981	(902) 426-9683	Jamiesonj@mar.dfo-mpo.gc.ca
Marc Johnston	NBDAFA, Moncton, N.B.	(506) 755-4000	(506) 755-4001	Marc.johnston@gnb.ca
René Lavoie, Chairman	IFD/DFO, Dartmouth, N.S.	(902) 426-2147	(902) 426-1843	Lavoier@mar.dfo-mpo.gc.ca
Mark Lundy	IFD/DFO, Dartmouth, N.S.	(902) 426-3733	(902) 426-1862	Lundym@mar.dfo-mpo.gc.ca
Robert O'Boyle	RAP/DFO, Dartmouth, N.S.	(902) 426-3526	(902) 426-5435	Oboyler@mar.dfo-mpo.gc.ca
Bruce Osborne	NSDFA, Halifax, N.S.	(902) 424-0352	(902) 424-1766	Osbornbd@fgov.ns.ca
Dale Roddick	IFD/DFO, Dartmouth, N.S.	(902) 426-6643	(902) 426-1862	Roddickd@mar.dfo-mpo.gc.ca
Stephen Smith	IFD/DFO, Dartmouth, N.S.	(902) 426-3317	(902) 426-1862	Smithsj@mar.dfo-mpo.gc.ca
Klaus Sonnenberg	GMFA, Grand Manan, N.B.	(506) 662-8481	(506) 662-8336	Gmfa@nb.aibn.com
Dick Stewart	Box 517, Yarmouth, N.S. B5A 4B1	(902) 742-9101	(902) 742-1287	
Greg Thompson	Fundy North, N.B.	(506) 659-2885	(506) 659-3113	
Glenn A. Wadman	Box 1210, Westport, N.S. B0V 1H0	(902) 839-2023	(902) 839-2070	Dbkenney@kbkenneyfisheries.com

Appendix 2. Letter of Invitation and list of invitees.

Invertebrate Fisheries Division
Maritimes Region, Science Branch
Bedford Institute of Oceanography
P.O. Box 1006, Dartmouth
Nova Scotia, B2Y 4A2
(TEL: 902 426-7444)
(FAX: 902 426-1862)

1 February 2002

Distribution

Subject: Assessment of SPA 1, 3, 4, 6 and 29 Scallop Stocks

The assessment of the inshore Bay of Fundy (SPA 1, 3, 4, 6 and 29) scallop stocks will be reviewed in the Conference Room at the MicMac Amateur Aquatic Club, 192 Prince Albert Road, Dartmouth, Nova Scotia, during 13-15 February 2002, commencing at 9:00 am. The meeting's terms of reference are attached.

The purpose of the review is to consider the assessments' data inputs, to examine the scientific approaches of the stock assessments, to identify any weaknesses in data and /or methodology, to help improve the clarity of the assessments, and to make recommendations for further research. It will include a detailed examination of the stock assessments and writing of Stock Status Reports.

Copies of the assessments and the draft stock status reports will be sent to participants one week before the meeting. At the meeting, DFO science staff will provide a brief overview of the assessments, which will include the main conclusions, the supporting evidence, any new methods, and major limitations. The presentation will be followed by discussion among the participants. The finalised stock status report will be prepared at the meeting. The minutes of this meeting will be published as a proceedings.

We greatly appreciate your contribution to this valuable exercise.

Rene Lavoie,
Meeting chair

Science / Science	*Government - Others / Gouvernement - Autres*	*Industry / Industrie*
Ellen Kenchington	Maureen Butler	Reg Hazelton
Mark Lundy	Ron Cronk	Vance Hazelton
Dale Roddick	Jim Jamieson	Mitchell Longmire
Ginnette Robert	Bruce Osborne	Brian Longmire
Steve Smith	Ian Marshall	Michael Chute
René Lavoie	Carol Ann Rose	Greg Thompson
Bob O'Boyle		Klaus Sonnenberg
		R.G. (Dick) Stewart
		Raymond King
		Jean St.Cyr
		Glen Wadman
		Greg Hamilton
		Michael Mitchell
		Michael Fraser

Appendix 3. Meeting Remit.

Meeting of the Maritimes Regional Advisory Process
SPA 1, 3,4, 6 Scallop and Scallop Fishing Area 29

13-15 February 2002
Mic Mac Amateur Aquatic Club
192 Prince Albert Road
Dartmouth, NS

Area 1 Scallop

- Assess the status of Area 1 scallop until 17 December 2001. The assessment should include:
  - An analysis of available commercial and survey information since 1981.
  - Application of the assessment model reviewed 10 - 12 October 2001.
- Provide advice for the 2002 fishery.
- Produce a section of the Inshore Scallop Stock Status Report and supporting Research Document documenting the results of the assessment.

Area 3 Scallop

- Assess the status of Area 3 scallop until 30 September 2001. The assessment should include:
  - An analysis of available commercial and survey information.
  - Application of the assessment model reviewed 10 - 12 October 2001
- Provide updated advice for the 2002 fishery.
- Produce a section of the Inshore Scallop Stock Status Report and supporting Research Document documenting the results of the assessment.

Area 4 Scallop

- Assess the status of Area 4 scallop until 28 January 2002. The assessment should include:
  - An analysis of available commercial and survey information.
  - Application of the assessment model reviewed 10 - 12 October 2001.
- Provide advice for the 1 October 2001 – 30 April 2002 fishery.
- Produce a section of the Inshore Scallop Stock Status Report and supporting Research Document documenting the results of the assessment.

Area 6 Scallop

- Assess the status of Area 6 scallop (with a focus on areas 6B and 6C) as of 17 December 2001. The assessment should include:
  - An analysis of available commercial and survey information since 1997.
- Provide advice for the 2002 fishery.
- Produce a section of the Inshore Scallop Stock Status Report and supporting Research Document documenting the results of the assessment.

Scallop Fishing Area 29

- Assess the status of Area 29 scallop as of 31 August 2001. The assessment should include:
  - An analysis of available commercial and survey information since 2001
- Provide advice for the 2002 fishery.
- Produce a section of the Inshore Scallop Stock Status Report and supporting Research Document documenting the results of the assessment.

Appendix 4. Meeting Schedule.

SPA 1, 3,4, 6 Scallop and Scallop Fishing Area 29

13-15 February 2002
Mic Mac Aquatic Club
192 Prince Albert Road
Dartmouth, NS

Wednesday, 13 February

09:00: Introduction

09:15-10:00: SPA 4

10:00-10:30: Break

10:30-12:00 SPA 4

12:00-13:30 Lunch

13:30-15:00: SPA 1

15:00-15:30: Break

15:30-17:00: SPA 1, SPA 6

Thursday, 14 February

09:00: Recap

09:15-10:00: SPA 3

10:00-10:30: Break

10:30-12:00: SPA 3, SFA 29

12:00-13:30: Lunch

13:30-15:00: SSR

15:00-15:30: Break

15:30-16:30: SSR

Friday, 15 February

09:00-12:00: SSR and Draft proceedings.

Appendix 5. List of Documents Tabled.

Smith, S., and M. Lundy. 2002. Scallop Production Area 3 and Scallop Fishing Area 29; Stock Status and Forecast. RAP Working Paper 2002/001.

Roddick, D., 2002. Assessment of the Scallop Stock in Scallop Production Area 1; Bay of Fundy for the Fall of 2001. RAP Working Paper 2002/002.

Roddick, D. 2002. Assessment of the Scallop Stock in Scallop Production Area 6; Bay of Fundy for 2001. RAP Working Paper 2002/003.

Smith, S. and Lundy, M. 2002. Scallop Production Area 4 in the Bay of Fundy: Stock status and forecast. RAP Working Paper 2002/004